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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,345	02/27/2002	Rudolf Epple	13632.0006	8249

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EXAMINER

LEE, TOMMY D

ART UNIT

PAPER NUMBER

2625

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,345

Applicant(s)

EPPLE, RUDOLF

Examiner

Thomas D. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/19/02 & 4/10/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims recite a reproduction method for printing, describing a modified characteristic curve of printing. However, no actual steps for performing the method are recited in the claims.

Claims 6-10 further recite the limitation "the zero crossing" in line 2 of each claim. There is insufficient antecedent basis for this limitation in the claim. Note that claim 5 recites "a zero crossing" at line 3 of the claim. However, claims 6-10 depend from claim 1, which does not recite this limitation.

Claim 25 further recites the use of printing inks with increased density in the print. The density of the printing inks is increased in comparison to what standard?

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 13, 14, 20-24, 27 and 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,055,923 (Kitagawa et al.).

Kitagawa et al. disclose a reproduction method for printing wherein characteristic data of an original are transformed into data required for printing, wherein a modified characteristic curve of printing which in relation to the ideal characteristic curve of printing has a maximum above an area coverage of 50% is predefined for the transformation in order to control the dot gain in printing (noting Fig. 11C, maximum dot gain occurs at two values of halftone-dot area rate, as indicated by the two “bumps” in the curve G_3 , one of which is clearly greater than 50%). The modified characteristic curve of printing in relation to the ideal characteristic curve of printing corresponds to the dependence of a modified dot gain on the area coverage (dot gain (%) depends on halftone-dot area rate on halftone film (%), as shown in Fig. 11C). The maximum of the modified characteristic curve of printing in relation to the ideal characteristic curve of printing lies at an area coverage of between 50% and 70%, at approximately 60% area coverage (range of halftone-dot area rate in which blank elements have isolated shapes (corresponding to location of the “bump” on the right side of curve G_3) can be set down to about 65% (column 15, lines 41-52), which is close enough to read on “*approximately 60%*”). The maximum of the modified characteristic curve of printing is determined by a correlation of the theoretical area coverage and the dot gain (correlation of theoretical area coverage (correlation between halftone-dot area rate on halftone film (%)) and dot

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gain (dot gain (%)) shown in Fig. 11C, maximum of modified characteristic curve (G_3) determined from graph) and is predefined by a mathematical function (dot gain defined as a function of halftone-dot area rate on printed matter and halftone-dot area rate on halftone film (column 13, lines 22-32)). The modified characteristic curve of printing has in relation to the ideal characteristic curve of printing a maximum percent dot gain of less than 30%, in the range of between 5% and 30%, at approximately 10% (maximum dot gain percentage, as shown in Fig. 11C, is about 13%, which is close enough to read on "*approximately 10%*"). Printing inks with increase density in the print are used for printing (). A modified black color characteristic curve of printing is used for black, and a modified chromatic color tone characteristic curve of printing is used for the chromatic color tones (modified characteristic curve obtained for magenta shown in Fig. 11C; characteristic curves for other colors (cyan, yellow, black) inherently obtained for the printing of halftone dots for each color component). A CMYK set of process colors is used for printing (Y, M, C and K color components recorded on a single recording film (column 8, line 65 – column 9, line 2)). The transformation from the original to printing data comprises a color space transformation from an RGB color space to a CMYK color space (generated color separation signals having R, G and B components converted into density signals for Y, M, C and K printers (column 8, lines 44-64)). The printing process is an offset printing process (printing plates for respective color inks fabricated (column 12, lines 66-68), indicative of an offset printing process). The modified characteristic curve of printing is entered in a color management system (color halftone dots managed according to the range of halftone-dot area rate in the dot gain curve

where halftone dot elements or blank elements having isolated shapes can be set (column 15, lines 41-52)).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 25, 26 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagawa et al. as applied to claim 1 above, and further in view of Japanese Document 10-35128 (Suzuki).

Kitagawa et al. do not disclose the use of printing inks with increased density (claim 25), compared with standard ink densities of various color inks (claims 28-31). Suzuki discloses a printing method wherein high-density ink is used so that high precision printing can be provided without making dot gains large (read ABSTRACT: PROBLEM TO BE SOLVED). Because of the denseness of the ink, the ink amount for carrying a pigment required for halftone dots can be small, by which dot gains of the halftone dots become small and the ink raised state on respective halftone dots is not collapsed but remains sharp (read ABSTRACT: SOLUTION). Smaller dot gains result in a more faithfully reproduced image, and thus one of ordinary skill in the art would have been motivated to use higher density inks as opposed to standard density inks, such as disclosed in Suzuki, in the method disclosed in Kitagawa et al.

Allowable Subject Matter

8. Claims 5-12, 15-19 and 32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found to disclose or suggest a modified characteristic curve of printing, having a zero crossing at a finite area coverage, as recited in claim 5, and as similarly recited in claims 6-12; or a modified characteristic curve of printing predefined by a mathematical function comprising several arcs of a circle, as recited in claim 15, or one or several arcs of an ellipse, a parabola or a hyperbola, as recited in claim 19; or the use of printing ink made from a mixture of binder, colorant and printing additives, with the proportion of the colorant in an ink to proportion of pigment being between 15% and 40%, as recited in claim 32.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (571) 272-7436. The examiner can normally be reached on Monday-Friday, 7:30-5:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas D Lee
Primary Examiner
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tdl
March 30, 2006